U. S. Department of Housing and Urban Development
Washington, D.C. 20410

OFFICE OF LEAD-BASED PAINT ABATEMENT
AND POISONING PREVENTION

Technical Bulletin **Issued: August 23, 1996**

ADDRESSING THE EXPOSURE HAZARD FROM LEAD IN IMPORTED VINYL MINIBLINDS

1. Purpose

The purpose of this Bulletin is to provide technical information to HUD staff and HUD program participants on the potential exposure hazard from lead dust that forms on imported, non-glossy, vinyl miniblinds. The Bulletin discusses the recent Consumer Product Safety Commission (CPSC) announcement on this subject, and provides recommended work practices to be followed when removing the blinds from residential units, if property owners decide on removal.

This document is not intended to establish HUD policy on this issue. Interested readers should contact the appropriate HUD office for specific program guidance.

2. Summary

- **Because of the potential lead exposure hazard, it is advisable that property owners remove imported, nonglossy, vinyl miniblinds from units housing or frequented by young children (ages 5 and younger).**
- **Testing for lead in the vinyl plastic or in the dust that forms on the blinds is unlikely to be cost-effective, except in limited circumstances. If sampling is conducted, concentrations of less than 200 ppm lead in the vinyl are considered insignificant and surface lead-dust loadings of less than 500 µg lead/ft^2 are considered acceptable.**

- **Use safe removal techniques, as described in this Bulletin, when removing blinds.**

3. Information From the Consumer Product Safety Commission

Because of the potential lead poisoning hazard, the Consumer Product Safety Commission issued a press release on June 25, 1996 recommending that parents remove imported, non-glossy, vinyl miniblinds in housing units with children ages six and under (see Attachment A). The plastic window blinds have horizontal slats about one inch wide and come in a variety of colors. The blinds are inexpensive products (generally $5 to $10 per set) imported primarily from China, Taiwan, Mexico and Indonesia. Lead was added to the vinyl plastic as a stabilizer. Metal and highly glossy plastic miniblinds are not included in the CPSC warning. The CPSC reported that nonleaded vinyl miniblinds should be available on the market as early as July, 1996.

The potential hazard was brought to CPSC's attention by reports from two States that children had apparently been lead poisoned through contact with dust on miniblinds. CPSC then made its recommendation following confirmation of high lead-dust levels on the surface of used miniblinds. Lead dust, which may not be visible to the naked eye, can form on the surface of the blinds as the vinyl deteriorates from exposure to sunlight and heat. Also, although it appears to occur infrequently, high levels of leaded dust may also occur on new, unused nonglossy, vinyl miniblinds as a byproduct of the manufacturing process.

CPSC has also released a series of "questions and answers" on the topic (see Attachment B). These include the most common questions and concerns addressed to CPSC following release of their original announcement. This should be a useful reference when responding to tenants' questions regarding this potential hazard.

CPSC has advised HUD that wipe sampling of dust on used blinds showed wide variability in the lead content of the dust, with an average lead-dust loading of approximately 1,050 micrograms lead per square foot of blind ($\mu g/ft^2$). For comparison, HUD's clearance guideline for lead on interior window sills (based on wipe sampling) is 500 $\mu g/ft^2$ (see HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, Chapters 5 and 15).

Significant concentrations of lead were detected in samples of the vinyl plastic taken from ALL of the blinds that CPSC examined, both used and new. The average lead concentration of the vinyl was approximately 1.0% by weight (that is, 10,000 parts per million (ppm)), with a range of approximately 0.8% to 1.2%.

CPSC did not identify a relationship between the amount of lead in the surface dust on blinds and the lead concentration of the vinyl plastic.

CPSC believes that the variability in the lead content of surface dust on the used blinds is primarily due to the fact that the blinds were exposed to differing amounts of ultraviolet radiation from direct sunlight, which is believed to be the major factor in their deterioration.

It is not expected that chewing or eating the vinyl would normally be a significant source of exposure for children, although this may occur on occasion. Of greatest concern is the potential for young children to be exposed to lead-contaminated dust by mouthing the blinds or touching them and then putting their hands in their mouths.

4. Conclusions Regarding Possible Actions in Response to the CPSC Press Release

If a property owner wants to respond to the CPSC notice, there appear to be two general options: (a) removal of all or some of the blinds, or (b) testing the blinds for lead as a basis for removal decisions. CPSC does not believe that occasional cleaning of the miniblinds is a viable option because it is difficult to completely remove the dust and it would have to be performed periodically (see Attachment B). Another factor arguing against this option is that the cleaner would be at risk of exposure, especially if the blinds were dry-dusted, which should be avoided.

A) Removing the Miniblinds

The HUD Office of Lead-Based Paint Abatement and Poisoning Prevention believes that removing the imported, non-glossy miniblinds from housing units is the property owner's best response to this issue. This is a permanent solution to this potential childhood lead exposure hazard. As with any lead hazard control effort, property owners could adopt a priority-based approach in which housing units with children ages 5 and younger would be first targeted for removal, followed by units which may house young children in the future. (Note: Although the CPSC press release defines "young children" as ages 6 and younger, HUD defines the age group at highest risk for lead exposure as ages 5 and younger. HUD adopted this definition, as has EPA, from the U.S. Centers for Disease Control and Prevention (CDC)) Suggested removal procedures are provided in section 5(A)

below.

If leaded miniblinds are removed, property owners would have the option of replacing them with relatively inexpensive "non-leaded" miniblinds which should currently be available at retail outlets.

B) Testing Miniblinds for Lead Content Before Removal

Testing miniblinds for lead content as a basis for deciding whether to remove them is generally not a cost-effective option, although there may be situations when the owners of multifamily housing complexes that contain a large number of blinds may decide to conduct some testing. The two types of testing that can be used to characterize the lead content of miniblinds include testing of the vinyl plastic for lead concentration and wipe-testing of slats to determine the surface loading of lead dust.

<u>Testing the vinyl plastic for lead concentration</u>: The CPSC has advised HUD that they believe that all imported, non-glossy vinyl miniblinds contain significant amounts of lead. This is based on their own test results as well as discussions with manufacturers.

Property owners may decide to test samples from miniblinds if they are unsure if the miniblinds installed in their properties are the leaded variety or if there is a desire to confirm that newly purchased miniblinds have negligible lead content. These questions could be answered by analyzing a small number of plastic samples. The analysis should be conducted by a qualified analytical laboratory, not by portable XRF analyzer or chemical spot test kits.

<u>Testing surface dust for lead content</u>: Wipe-testing of lead in dust on the surface of miniblinds provides the best indication of the immediate risk posed to young children. However, there are serious disadvantages with this approach. One problem is that blinds found to have low surface lead loading following wipe-testing would need to be retested on a periodic basis, and there is no information regarding the rate at which leaded dust forms on the surface of miniblinds. Another problem is that there appears to be considerable variability in the lead-dust loading on the surface of blinds. Although it is known that certain factors such as amount of direct sunlight and patterns of use are associated with this variability, a thorough study of this subject has not been conducted. Therefore, it is difficult to ensure that a "representative sample" is being collected for the purpose of characterizing lead loading on blinds in a multifamily housing complex.

5. Guidance for Removing or Testing Miniblinds

Following are suggested procedures for the removal or testing of miniblinds.

A) Removing Miniblinds From Housing Units

(Note: Children should not be present in rooms where miniblinds are being removed.)

(1) Determine whether the owner of the property or a tenant has installed the type of miniblinds described above.

(2) If a tenant has installed them, the tenant should be provided with information informing them of the potential hazard, including the simple steps (given below) to follow when removing the miniblinds.

(3) If these types of miniblinds have been installed by the property owner, the owner may choose to remove all of the blinds, or conduct a targeted removal of the blinds in units or common areas occupied or frequented by young children (ages 6 and younger), using the procedures described below.

(4) If miniblinds are to be removed, precautions should be taken to prevent exposure of workers to lead dust, dispose of the miniblinds properly, and use care to avoid leaving lead dust in the living space.

Workers involved in removing blinds are covered under the OSHA General Industry Lead Standard (29 CFR 1910.1025). Workers may also be covered by an applicable State lead regulation. Based on "reasonable worst case" exposure calculations conducted by HUD, it appears very unlikely that the levels of airborne lead associated with the removal procedure (as described below) would reach or exceed the OSHA action level of 30 micrograms lead per cubic meter of air ($\mu g/m^3$) as an 8-hour time-weighted average; however, employers may decide to conduct exposure monitoring in order to confirm this.

If it is assumed that the action level would not be reached during the removal operation, only basic worker training is required, including instruction in: I) The hazards of lead (as described in Appendix A of the OSHA standard); ii) The requirements of the OSHA General Industry Standard (described in Appendix B of the OSHA standard); and, iii) The work practices associated with the job. The topics that

are covered in Appendices A and B of the OSHA General Industry Standard are presented in Attachment C of this Bulletin. Because workers whose only lead exposure is from removing miniblinds would be very unlikely to be exposed to airborne lead above the OSHA action level, employers would not be required to comply with many of the elements of the lead standard (e.g., respiratory protection, medical monitoring, posting signs).

EPA has stated that miniblinds originating from residential housing units (single or multifamily) are exempt from hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) and can be disposed of as ordinary household waste (memo from G. Helms, EPA Office of solid Waste, to M.F. Toro, CPSC, July 12, 1996). Miniblinds originating from nonresidential units, such as offices and day care centers, are not considered household waste, and may have to be disposed of as hazardous waste. (Owners or lessors of nonresidential space should contact EPA or State hazardous waste offices for details).

The following is a brief outline of recommended work practices to be followed in removing previously installed miniblinds:

(a) If the blinds are closed, they should first be carefully opened. The blinds should then be slowly raised and secured.

(b) The blinds should be unfastened, gently removed, and immediately placed into a plastic-lined container (such as a drum or a box) or a closeable individual box for disposal. Removed blinds should not be piled on the floor, where they could release dust.

© Following removal of the blinds, the window sill and trough[1] should be wet cleaned to remove lead-dust that may have fallen from the blind and any paint chips that may have been dislodged in the process of removing the blinds. If the sill and/or trough are observed to be in a deteriorated condition, the surfaces should be vacuumed with a High Efficiency Particulate Air (HEPA) vacuum before being wet cleaned.

(d) The floor and other horizontal surfaces such as radiator covers and furniture that are immediately adjacent to the window (for example, within 1 to 2 ft.), should then be washed or vacuumed to complete the job. All workers removing blinds should wash their hands and face thoroughly

before taking breaks, before leaving at the end of the day, and after all blinds are removed.

B) Testing Miniblinds Before Taking Further Action

(1) <u>Testing the vinyl plastic for lead concentration</u>: Determine the lead content of the blinds by collecting samples for laboratory analysis. The sampling should be sufficient to adequately characterize groups of similar blinds (based on manufacturer, color, date of purchase, etc.). If the analysis shows that lead is present at levels greater than 200 parts per million (ppm) by weight[2], the blinds should be removed from those units occupied or frequented by young children, as recommended by CPSC. Based on the information available to HUD, it appears likely that most non-glossy vinyl miniblinds would have a lead content above 200 ppm. CPSC is aware of no manufacturer of the product located in the U.S., and all imported blinds tested by CPSC had lead concentrations well in excess of 200 ppm.

(2) <u>Dust-wipe sampling of miniblinds</u>: If the property owner wishes to confirm that there is lead dust on the blinds, dust-wipe samples could be collected from a representative sample of blinds. The wipe sampling procedure described in the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (Appendixes 13 and 14) should be adequate for use on vinyl blinds. Wipe samples should only be collected by individuals who are trained and certified to perform this function, such as certified lead-based paint risk assessors. Blinds that are subjected to the most intense sunlight should be sampled. Composite wipe samples could be collected to reduce costs while increasing the likelihood that the results are representative (see Appendix 13 of the HUD Guidelines).

The results of the dust-wipe sampling should be compared to HUD's clearance guideline for interior window sills, which is 500 µg lead/ft[2]. If the lead-dust levels are at or above this amount, the miniblinds should be removed from those units occupied or frequented by young children, using the procedure described above. If the lead-dust levels are less than 500 µg lead/ft[2], conduct periodic dust sampling to ensure that lead-dust levels remain acceptable.

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[1]For a typical double-hung window, the portion of the exterior window sill between the interior window sill and the frame of the

storm window. If there is no storm window or screen, the window trough is the area that receives both the upper and lower window sashes when they are both lowered.

[2]Risk assessment calculations conducted by CPSC indicate that 200 ppm of lead in blinds would be unlikely to pose a significant hazard to a young child. Manufacturers of miniblinds have also told the CPSC that any trace levels of lead in newly formulated miniblinds would be present below this concentration.

For additional information contact Dr. Peter Ashley in HUD's Office of Lead-Based Paint and Poisoning Prevention at (202) 755-1785, ext. 115.

ATTACHMENT A

NEWS from CPSC

U.S. Consumer Product Safety Commission
Office of Information and Public Affairs, Washington, DC 20207

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CPSC Finds Lead Poisoning Hazard for Young Children in Imported Vinyl Miniblinds

WASHINGTON, D.C. - After testing and analyzing imported vinyl miniblinds, the U.S. Consumer Product Safety Commission (CPSC) has determined that some of these blinds can present a lead poisoning hazard for young children. Twenty-five million non-glossy, vinyl miniblinds that have lead added to stabilize the plastic in the blinds are imported each year from China, Taiwan, Mexico, and Indonesia.

CPSC found that over time the plastic deteriorates from exposure to sunlight and heat to form lead dust on the surface of the blind. The amount of lead dust that formed from the deterioration varied from blind to blind.

In homes where children ages 6 and younger may be present, CPSC recommends that consumers remove these vinyl miniblinds. Young children can ingest lead by wiping their hands on the blinds and then putting their hands in their mouths. Adults and families with older children generally are not at risk because they are not likely to ingest lead dust from the blinds.

Lead poisoning in children is associated with behavioral problems, learning disabilities, hearing problems, and growth retardation. CPSC found that in some blinds, the levels of lead in the dust was so high that a child ingesting dust from less than one square inch of blind a day for about 15 to 30 days could result in blood levels at or above the 10 microgram per deciliter amount CPSC considers dangerous for young children.

"Some of the vinyl blinds had a level of lead in the dust that would not be considered a health hazard, while others had very high levels," said CPSC Chairman Ann Brown. "Since consumers cannot determine the amount of lead in the dust on their blinds, parents with young children should remove these vinyl miniblinds from their homes."

CPSC asked the Window Covering Safety Council, which represents the industry, to immediately change the way it produces vinyl miniblinds by removing the lead in these blinds.

Manufacturers have made the change and new miniblinds without added lead should ap be widely available over the next 90 days.

Stores will sell the new vinyl blinds packaged in cartons indicating that the blinds are made without added lead. The cartons may have labeling such as "new formulation," "nonleaded formula," "no lead added," or "new! non-leaded vinyl formulation." New blinds without lead should sell in the same price range as the old blinds at about $5 to $10 each.

CPSC recommends that consumers with young children remove old vinyl miniblinds from their homes and replace them with new miniblinds made without added lead or with alternative window coverings. Washing the blinds does not prevent the vinyl blinds from deteriorating, which produces lead dust on the surface.

The Arizona and North Carolina Departments of Health first alerted CPSC to the problem of lead in vinyl miniblinds. CPSC tested the imported vinyl miniblinds for lead at its laboratory.

The laboratories of NASA's Goddard Space Flight Center and the Army's Aberdeen Test Center used electron microscope technology to confirm that as the plastic in the blinds deteriorated, dust formed on the surface of the blind slats. This testing also established that the dust came from the blinds and not from another source. CPSC laboratory tests confirmed that this dust contained lead.

"This lead poisoning is mainly a hazard for children ages 6 and younger," said Chairman Brown. "Adults and older children generally are not at risk because they are not likely to ingest lead dust from the blinds."

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The U.S. Consumer Product Safety Commission protects the public from the unreasonable risk of injury or death from 15,000 types of consumer products under the agency's jurisdiction. To report a dangerous product or a product-re and enter the release number. Consumers can obtain recall information via Internet gopher services report product hazards to info@cpsc.gov.

ATTACHMENT B

U.S. CONSUMER PRODUCT SAFETY COMMISSION
WASHINGTON, D.C. 20207

Q and A's for Lead in Miniblinds Prepared by CPSC Staff

Question: Why is the CPSC concerned about lead in vinyl miniblinds?

Response: All non-glossy vinyl miniblinds tested by CPSC contained lead. Some of the non-glossy blinds tested had high levels of lead on the surface. The lead was in the form of a layer of dust that could be easily dislodged and ingested by young children. Children 6 years and under often put their hands in their mouths. If they regularly touch the miniblinds with high levels of lead dust and then put their hands in their mouths, they could develop blood lead levels that have been linked with behavior and learning problems, damage to the brain and nervous system, slowed growth, and hearing problems.

Question: What testing was conducted to support the CPSC's conclusions that some vinyl miniblinds are a lead hazard?

Response: CPSC's Health Sciences Laboratory investigated the potential release of lead from various brands of miniblinds by measuring the amount of lead in the miniblind and the amount of lead available in the dust on the surface of the blind. In some cases, an assessment of the home also was conducted to rule out other likely environmental sources of lead. For some miniblind samples, the investigation also included accelerated aging with ultraviolet light and high temperatures. The accelerated aging attempted to simulate exposure to sunlight to determine whether the vinyl would deteriorate.

Initial testing indicated that non-glossy miniblinds contained lead, but glossy miniblinds did not. This testing was later confirmed by the industry who reported that lead was used as a stabilizer only in non-glossy miniblinds. Reportedly, all of the non-glossy vinyl miniblinds are imported.

CPSC staff then focused its investigation on both "brand new" and "used" imported non-glossy vinyl miniblinds. The used

blinds were obtained from consumers; the "new" blinds were purchased at retail stores. The testing indicated that as the plastic deteriorates from exposure to sun and heat, the lead contained in the plastic becomes available for ingestion as dust on the surface of the slats. Further, in homes with no other likely sources of lead, lead dust levels on floors and window sills near the miniblinds with high lead dust levels, were not elevated. This indicated that the likely source of lead on the surface of the slats was from the slats.

Lead dust levels varied from blind to blind. Differences in environmental conditions (exposure to sunlight, heat, etc.) and the chemical composition of the miniblinds probably caused much of the variability in the dust levels.

Further testing at the laboratories of the National Aeronautics and Space Administration and the Army's Aberdeen Proving Grounds using scanning electron microscopy (SEM) supported the findings that non-glossy vinyl blinds deteriorate with age under certain environmental conditions. SEM revealed distinct differences between the new blinds and used blinds. The particles at the surface of the new blinds were largely bound in the vinyl matrix. In contrast, the used blinds showed a greater quantity of loose particles at the surface. Further, because silica (common to dirt and clays) was not found on the surface of used blinds (verbal communication with labs), the testing established that the lead came from the blind and not from another source, such as house dust.

Question: I saw my child touch the miniblinds and then put his/her hands in his/her mouth. Should I take my child to the doctor or hospital?

Response: No, it is not necessary to be alarmed if your child has touched the non-glossy vinyl miniblinds once or even a few times and then put his/her hands in his/her mouth. If you think that the child has done this repeatedly you might want to consult a physician and tell him/her that you suspect your child may have been exposed to lead. The physician will determine what if anything needs to be done. Additionally, we would recommend that you remove the miniblind(s) that your child is able to reach so he/she does not touch them repeatedly.

Question: How does lead get into vinyl miniblinds?

Response: According to the manufacturers, lead has been intentionally added to the non-glossy vinyl as a stabilizer to make the plastic more heat stable, rigid and durable.

Question: Can something other than lead be used as a stabilizer?
Response: Yes, manufacturers of polyvinyl chloride in the United

States have been using stabilizers other than lead. Companies have provided CPSC with the names of several stabilizers that are currently being used. A monomethyltin and a dimethyltin being used in miniblinds have been approved by the FDA for use in plastics used for food storage and for the manufacture of pipes intended for contact with water in food processing plants. The two tin stabilizers approved by the FDA for contact with food surfaces were approved based primarily upon the low exposure expected. While there is toxicity associated with the organotins being used as stabilizers, if exposure to these organotins is kept to a minimum, staff believes that use of these stabilizers is acceptable. CPSC staff has indicated to the manufacturers that they are responsible for ensuring the safety of the stabilizers they are using. Staff will continue to monitor the use of these non-lead stabilizers.

Question: Will there still be lead in the vinyl miniblinds once the manufacturers stop using lead stabilizers?
Response: There may be low levels of lead as a contaminant in blinds even after lead is no longer used as a stabilizer. But, these levels should not present a health hazard. For example, when lead was no longer used as an intentional additive in paints, the majority of paints CPSC tested had lead levels less than 0.02%. If manufacturers of miniblinds clean their factories appropriately and follow good manufacturing practices, similarly low lead levels could be achieved.

Question: If children 6 years and under can develop health problems due to exposure to lead from vinyl miniblinds, why is CPSC not recalling all vinyl miniblinds?

Response: CPSC did not recall the blinds because a several factors must exist for there to be a problem: 1) the vinyl miniblinds must have been exposed to sun and heat; 2) the home must have a child six years and under; 3) the miniblinds must be within reach of these children, and 4) the child must gain access to the blinds and ingest enough lead dust for 15-30 days to result in elevated blood lead levels. Because of the variety of factors that must be present for there to be a problem, no recall was sought in this case. To eliminate the possibility of this hazard in the future, companies are changing their formulations.

Question: Why is the Consumer Product Safety Commission not banning the future production of lead-containing vinyl miniblinds or setting a mandatory standard for the amount of lead allowed in vinyl miniblinds?

Response: When the Commission staff became aware of the potential problem of lead in vinyl miniblinds, they called in the industry and the major industry association, the Window Covering Safety Council, an umbrella group representing 90% of the vinyl

miniblinds manufacturers. These manufacturers/importers/ retailers have been working with us to solve the problem. They have indicated to us that they have begun to produce a vinyl miniblind with no lead intentionally added. In addition, they have cleaned up their manufacturing plants to minimize the amount of lead present from contamination. These new vinyl miniblinds with no lead stabilizer added started appearing in stores around July 1, 1996. Because companies are discontinuing the use of lead, no standard appears to be needed.

Question: I have children 6 years old and under and have old non-glossy vinyl miniblinds that the children can reach. What should I do?

Response: The Commission staff recommends that you remove these vinyl miniblinds from your windows and dispose of them.

Question: How can I dispose of my vinyl miniblinds?

Response: You can discard non-glossy vinyl miniblinds from residences with your regular trash. Make sure that when you dispose of the blinds they are not readily accessible to young children.

Question: Do consumers who remove vinyl miniblinds with lead need to wash their window sills and surrounding areas?

Response: The Commission staff does not believe that the dust on the blinds will become airborne during removal. However, during removal, it is possible that some of the dust might wipe off on the window sill or other areas of the window area that might be accessible to young children. If consumers are concerned, they could wet wipe the sills and accessible parts of the frame with a general purpose household cleaner.

Question: Instead of disposing of my vinyl miniblinds, can I just wash the lead containing surface dust off them on a regular basis?

Response: No. Even with vigorous scrubbing, you probably will be unable to remove all the lead containing dust. In addition, deterioration of the vinyl miniblind will continue. The rate of deterioration depends upon the amount of heat and sun to which the blind is exposed as well as its chemical composition. We cannot tell you what this rate is and how often you would have to clean your blinds. That is why, if you have children 6 years and under and the blinds are within their reach, the safest thing to do is to remove them and throw them away.

Question: Can I vacuum the lead dust off the miniblind?

Response: No. Vacuuming the dust will probably not remove all of the lead dust. In addition, the deterioration of the non-glossy vinyl miniblind will continue. The rate of deterioration depends upon the amount of heat and sun to which the blind is exposed as well as its chemical composition. CPSC staff cannot tell you what this rate is and how often you would have to vacuum your blinds to insure that the dust level was kept to a minimum. If you have children 6 years and under and the blinds are within their reach, the safest thing to do is remove them.

Question: Are adults and older children still exposed to the lead dust by inhalation even though they don't ingest the lead dust?

Response: CPSC staff believes that the surface lead containing dust from the deteriorating vinyl does not become airborne and is not inhaled by people in the household. In homes with no other likely sources of lead, lead dust levels on floors and window sills near the miniblinds with high lead dust levels, were not elevated.

Question: Were/are any vinyl miniblinds made without lead?

Response: To the best of our knowledge, lead was not and is not used as a stabilizer in glossy miniblinds, only in non-glossy miniblinds. Non-glossy vinyl miniblinds made without the intentional addition of lead began appearing on the shelves of retail stores around July 1, 1996. The packaging of these blinds should bear labeling such as "New Formulation," "non-leaded formula," "no lead added," or New! Non-leaded vinyl formulation" or in some other way convey the message that they were made without the lead stabilizer.

Question: How can I tell if my miniblinds are old or deteriorating?

Response: Unfortunately there is no easy way to tell if your miniblinds are old or deteriorating. Some old, deteriorating miniblinds look no different from brand new miniblinds.

Question: Can I use a lead test kit to determine whether my miniblinds pose a hazard?

Response: The Commission staff does not recommend the use of lead test kits to test miniblinds. Tests on paint conducted in the Commissions's laboratory indicated that lead test kits did not accurately discriminate between lead and non-lead based paints. In addition, lead test kits were not designed to measure lead in plastic.

Question: Was any color more hazardous than others?

Response: No, the lead in miniblinds was unrelated to color.

Question: Are metal miniblinds safer?

Response: We are presently not aware of any lead hazards from metal miniblinds.

Question: Should I be concerned about lead in other vinyl products?

Response: The Commission staff is looking at the potential of lead release from other vinyl consumer products normally exposed to sun and heat.

Question: My child has an elevated blood lead level and lives in a house with these miniblinds. Do I need to report this case to you? Do you want the miniblinds?

Response: No, it is not necessary to report cases to the CPSC. You should follow the recommendations of your state or local health department, local poisoning prevention program or personal physician. This would include removing non-glossy vinyl miniblinds if they are accessible to your young child.

Question: What is the difference between vinyl, polyvinyl chloride (PVC) and plastic?

Response: For the purposes of the discussion of lead in vinyl miniblinds, the terms vinyl and polyvinyl chloride are used interchangeably. Polyvinyl chloride is a type of plastic.

Question: Do the blinds pose a special hazard for pregnant women?

Response: While maternal exposure to lead and low blood lead levels measured in umbilical cord blood have been associated with deficits in cognitive test performance and neuromotor performance in children, staff do not believe that these miniblinds pose a special hazard for pregnant women. The hazard posed by miniblinds is the result of ingesting the dust containing lead that forms on the surface of the blinds as they degrade, not from an inhalation hazard. Staff believes that the hazard posed by miniblinds containing lead as a stabilizer is an ingestion hazard, especially for young children who typically exhibit hand-to-mouth behavior. This is generally not a problem for adults and older children who are not expected to touch the blinds with their hands and then put their hands in their mouths.

ATTACHMENT C: OSHA General Industry Standard for Lead

As stated in the main text of this Bulletin, it appears very unlikely that airborne lead levels from miniblind removal would reach the OSHA action level of 30 µg/m³. OSHA's basic training requirement for workers exposed to airborne lead concentrations below the OSHA action level includes instruction in the following topics:

A. A Description of the Nature and Hazards of Lead

Substance Identification:
- **A description of lead**
- **Compounds covered by the lead standard**
- **Uses of lead**
- **Permissible exposure to airborne lead, and**
- **The action level for airborne lead**

Health and hazard data:
- **Ways in which lead enters your body**
- **Effects of overexposure to lead:**
  - **Short-term (acute) overexposure**
  - **Long-term (chronic) overexposure**

Health protection goals of the OSHA lead standard

Reporting signs and symptoms of health problems

B. A Summary of the OSHA General Industry Standard

- **Permissible exposure limit for airborne lead**
- **Exposure monitoring**
- **Methods of compliance**
- **Respiratory protection**
- **Housekeeping**
- **Hygiene facilities and practices**
- **Medical surveillance**
- **Medical removal protection**
- **Employee information and training**
- **Signs**
- **Recordkeeping**
- **Observations of monitoring**

For workers whose exposure to lead is expected to, and does, have airborne lead exposures below the action level, only some of the OSHA requirements, above, apply. The specific requirements are listed in the OSHA standard, available from OSHA at (202) 219-

4667, or from local OSHA offices. OSHA requires affected employers to make readily available to all employees exposed to lead, a copy of the standard and its appendices. In States authorized by OSHA to administer their own safety and health programs, employers should contact their State (or local) agency for information on training and other requirements.